



Challenge TB - Uzbekistan
Year 2
Annual Report
October 1, 2015 – September 30, 2016

November 7, 2016

Cover photo: *TWG meeting on new drugs and regimen implementation plan, Tashkent city, July 2016. Credit: Guzal Subanova, WHO Country office in Uzbekistan.*

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List of Abbreviations and Acronyms

aDSM	active TB Drug Safety Monitoring and Management
AE	Adverse Event
CAR	Central Asian Republics
CDC	Center for Disease Control and Prevention
CDR	Case Detection Rate
CTB	Challenge TB
DOT	Directly Observed Treatment
DOTS	Directly Observed Treatment Short Course
DR	Drug Resistance
DRS	Drug Resistance Survey
DR-TB	Drug Resistant Tuberculosis
DST	Drug Susceptibility Testing
ERR	Electronic Recording and Reporting system
FLD	First Line Drug
FQs	Fluoroquinolones;
GFATM	Global Fund to fight Aids, Tuberculosis and Malaria
GLC	Green Light Committee
HRD	Human Resource Development
HSS	Health System Strengthening
IC	Infection Control
IEC	Information, Education and Communication
MDR	Multi Drug Resistance
MDR-TB	Multi Drug Resistant Tuberculosis
M&E	Monitoring and Evaluation
MoH	Ministry of Health
MSF	Médecins sans Frontières (Doctors without Borders)
NGO	Non-Governmental Organization
NTP	National TB Program
NRL	National Reference Laboratory
NSP	National strategic plan
OR	Operations Research
PHC	Primary health care
PIU	Project Implementing Unit
PLHIV	People living with HIV
PMDT	Programmatic Management of Drug-resistant Tuberculosis
PMU	Program Management Unit
PV	Pharmacovigilance
R&R	Recording and reporting
SLD	Second Line Drug
SLID	Second Line Injectable Drugs
SRL	Supra-national Reference Laboratory
USAID	United States Agency for International Development
WHO	World Health Organization
XDR-TB	Extensively Drug Resistant Tuberculosis

1. Executive Summary

The USAID-supported five-year (2015-2020) Challenge TB (CTB) project is implemented in Uzbekistan since June 2016. CTB is aligned with the Uzbekistan NSP 2016-2020 and the United States Government TB Strategy. The goal of the project is to improve patient-centered quality TB services, building local capacity and the utilization of innovations and new technologies to move forward in the global fight against TB.

In Project Year 2 (APA2), CTB was implemented by KNCV Tuberculosis Foundation in partnership with WHO country office in Uzbekistan and WHO European Regional office, at the national level and in Djizzak and Syrdarya provinces (oblasts). In APA2, US\$456,581 was obligated to support CTB program in country.

CTB has a partnership with NTP/MoH, USAID, PIU GFATM, KfW, USAID TB Control Program managed by Project Hope, MSF, and other local and international partners working in TB control in Uzbekistan. In APA2, CTB was planning to focus on three technical areas:

1. Expansion and strengthening of a comprehensive, high-quality diagnostic network;
2. Development of a patient-centered care and treatment approach;
3. Improving quality data, surveillance, and monitoring and evaluation;

The summary of major achievements of CTB in Uzbekistan in APA2:

Development of a patient-centered care and treatment approach:

CTB developed the implementation plan on introduction of new drugs and shorter regimen for DR-TB treatment. CTB consultants from WHO and KNCV revised diagnostic algorithm, optimized DR-TB treatment regimens, including regimens containing new drugs (for pre/XDR-TB). The new plan creates the conditions necessary for ensuring an effective, safe and successful introduction of the combination of the shorter MDR-TB regimen (for uncomplicated MDR-TB cases) and regimens containing new drugs for treatment of pre-XDR and XDR-TB in Uzbekistan.

Expansion and strengthening of a comprehensive, high-quality diagnostic network:

The national TB diagnostic algorithm has been revised to ensure patients' triage and timely enrolment on appropriate treatment regimens. Updated algorithm extends access for TB detection for target groups of population – people living with HIV (PLHIV), migrants, ex-prisoners, children et al.; and also allows to avoid duplicated and excessive testing as well as shortens specimen transportation pathways. New algorithm will be finalized and approved in Q4 2016, as a part of updated national policy on TB control - the consolidated order on TB (Prikaz #383).

Improving quality data, surveillance, and monitoring and evaluation:

In the framework of CTB project KNCV consultants developed a case-based real-time electronic registry to be used as an interim database for registration of patients enrolled on shorter regimen and regimens containing new drugs. The database was proposed to the NTP as an interim solution to ensure recording and reporting of relevant data on patients enrolled on ND&R. It is also expected that the interim database will inform design of a case based real-time electronic registry for TB and MDR-TB patients in the future. Additionally, CTB supported NTP to develop an updated recording and reporting forms (patient' treatment card, adverse events' reporting form). CTB's support in M&E area was provided as a part of preparations for enrollment of patients on ND&R. As next steps, CTB will (1) finalize national ND&R implementation plan (by Nov 2016), (2) endorse national ND&R implementation plan including all the components (by Dec 2016) and (3) finalize M&E component of national ND&R implementation plan (by Jan 2016)

2. Introduction

CTB is one of the main mechanisms for implementing the USAID TB strategy. It is a 5-year project aimed at building and expanding upon previous programs, particularly the TB CARE I (2011-2015) and Tuberculosis Control Assistance Program (TB CAP 2005-2010).

In Project Year 2 (APA2) CTB in Uzbekistan was implemented by KNCV Tuberculosis Foundation in collaboration with World Health Organization (WHO) Country Office based in Tashkent and the TB Unit of the WHO Regional Office for Europe. In APA2, US\$456,581 was obligated to support CTB project in country.

Implementation of the CTB activities in Uzbekistan started in June 2016. Overall guiding principles for implementing CTB in country are:

- To align with the National TB program for END TB Global strategy, WHO recommendations and the United States Government TB Strategy;
- Focus on technical assistance (TA) at the national level, as well as at the pilots' level, through collaboration with other key TB stakeholders and other USAID funded TB partners wherever possible;
- Introduce innovations and implement pilots introducing the new treatment concepts and diagnostic technologies.

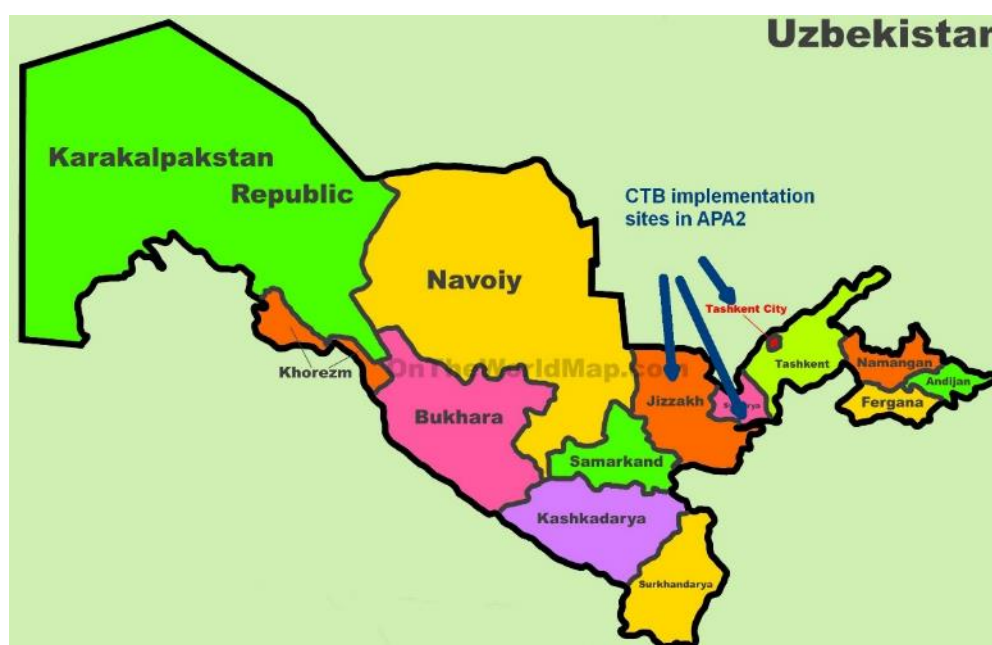


Figure 1 CTB implementation sites in APA2

Project activities in APA2 focused on interventions at the national and province (oblast) levels (Djizzak and Syrdarya provinces). Figure 1 shows the CTB implementation sites per province. The goal of the project is to improve patient-centered quality TB services, building local capacity as well as the utilization of innovations and new technologies to move forward in the global fight against TB.

CTB worked in APA2 under three main objectives, (1) Improvement of patient-centered quality care and services for TB, (2) Sustain and enhance systems and (3) Transmission and disease prevention, in the following areas:

1. Expansion and strengthening of a comprehensive, high-quality diagnostic network (Sub objective #2);
2. Development of a patient-centered care and treatment approach (Sub objective #3);
3. Improving quality data, surveillance, and monitoring and evaluation (Sub objective #10).

Since 2012 MDR-TB diagnosis and treatment is being scaled up rapidly across the country with new treatment regimen becoming available late 2015 for eligible patients. Many patients are enrolled to different treatment regimens, and the length of treatment varies, so NTP needs effective data management tools, to be able to make wise programmatic decisions, based on results of different clinical and programmatic approaches.

Development of a system and building NTP's capacity for implementation of new drugs and regimens (ND&R) has been one of the main priorities of the CTB-Uzbekistan project in APA2. Successful implementation of new drugs and new regimen, alongside other essential components require a proper monitoring and evaluation (M&E) system to ensure collection and analysis of necessary data on treatment effectiveness and treatment safety. The latter to be done through pharmacovigilance (PV)/ active drug safety monitoring (aDSM), with the necessary data ideally to be collected by using well functional real-time case-based electronic recording and reporting system (ERR).

3. Country Achievements by Objective/Sub-Objective

Objective 1. Improved Access

Sub-objective 2. Comprehensive, high quality diagnostics

CTB worked on optimization of diagnostic algorithm and technical capacity improvement of laboratory staff, management staff and clinicians on the use of the Xpert platform test and implementation of the diagnostic algorithms that include the Xpert MTB/Rif test.

Key Results

- In APA2 the national TB diagnostic algorithm was revised and improved, to address the high demand in DR-TB, rapid detection and enrolment to treatment. The updated algorithm extends access for TB detection for target groups of population – PLH, migrants, ex-prisoners, children et al.; and also allows to avoid duplicated and excessive testing as well as shortens specimens' transportation pathways. New algorithm will be finalized and approved in Q4 2016, as a part of updated national policy on TB control - the consolidated order on TB (Prikaz #383).
- In the framework of CTB, WHO Country office supported trainings to build technical capacity and ensure NTP ownership. The training on the practical use of Xpert MTB/Rif was attended by laboratory specialists, managers and clinicians of TB and primary health care (PHC) services. The group consisted of 32 laboratory and clinical specialists and managers (18 female, 14 male).



*Photo: Training on rapid TB diagnosis in Jizzakh, Uzbekistan
Aug 2016*

Challenges

- According to the current diagnostic algorithm all patients with presumptive tuberculosis are referred to smear-microscopy and X-ray examination. Patients with positive smear results are referred to Xpert MTB/Rif. Smear positivity is the main criteria for Xpert MTB/Rif testing due to limited resources for procurement of cartridges for Xpert MTB/Rif. In some cases, it narrows an access for testing to DR-TB for people who have TB, but their smear microscopy results do not show that. Additionally, an absence of Xpert MTB/Rif is noticed in some oblasts (Syrdarya, Djizzakh, Andijan, Namangan oblasts and in Tashkent city). CTB initiated revision of TB diagnostic algorithm, in line with ND&R implementation plan, where exceptional barriers to get tested by rapid TB tests were avoided.
- Sample transportation is getting more complicated because of centralization of drug susceptibility testing (DST), limited number of culture laboratories as well as limited number of Xpert machines. Also, due to a late project start, CTB was not able to procure the initially planned Gene Xpert machines. Therefore, CTB was unable to demonstrate significant improvement in DR-TB detection rates in the implementation sites. To overcome this, CTB started to revise the sample transportation system in Djizzakh and Syrdarya oblasts, considering new diagnostic tools to be provided by CTB in APA3 (Hain test, Xpert MTB/Rif).
- Timely collection and analysis of lab data is a challenge for the NTP. Two main reasons are: 1, insufficient collaboration mechanism between clinicians and laboratory specialists. 2, absence of effective patient-based electronic recording-reporting tools resulting in ineffective management of lab data. CTB helped NTP M&E unit team to (1) define M&E issues to be addressed for proper roll out of shorter regimen and new drugs, (2) list adjustments to existing R&R and database for ensuring qualitative implementation of new drugs and shorter regimen and (3) draft the Action Plan for strengthening surveillance/ ERR and M&E aspects for roll out of shorter regimen and new drugs in Uzbekistan.

Table 1 Sub-objective 2. Comprehensive, high quality diagnostics

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y2	Y2
2.4.3.	MTB positivity rate of Xpert test results	Description: This indicator measures MTB positivity rate of Xpert test results Indicator Value: Percent Level: National and Challenge TB geographic areas Numerator: Number of MTB positive samples Denominator: Total number of samples from suspected TB cases tested using Xpert test (excluding invalids, errors, no results).	CTB: 0%; National: 24,1%	CTB: 32%; National: 26%	CTB: N/A (CTB will procure Xpert instruments in APA3) National: 26%
2.4.5.	% unsuccessful Xpert tests	Description: This indicator measures proportion of unsuccessful Xpert tests <u>Indicator Value</u> : Percent <u>Level</u> : National and Challenge TB geographic areas <u>Numerator</u> : Number of unsuccessful Xpert tests <u>Denominator</u> : Total number of Xpert tests.	CTB: 0%; National: 6,8%	CTB: 3,5%; National: 6,7%	CTB: N/A; (CTB will procure Xpert instruments in APA3) National: Not available yet (NTP Data for 2016 will be available in 2017);

2.4.6.	#/% of new TB cases diagnosed using GeneXpert	Description: Proportion of new TB cases diagnosed using GeneXpert <u>Indicator Value</u> : Percent <u>Level</u> : National and Challenge TB geographic areas <u>Numerator</u> : Number of new TB cases diagnosed using GeneXpert <u>Denominator</u> : Total number of new TB cases	50% (estimated)	100%	CTB: N/A; (CTB will procure Xpert instruments in APA3) National: N/A (NTP Data for 2016 will be available in 2017);
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Photo: MSF, WHO, KNCV are discussing with Head of NRL the ways to optimize TB diagnostic algorithm.

Objective 3. Strengthened TB Platforms

Sub-objective 9. Drug and commodity management systems

CTB supported the development of the ND&R implementation plan at national level, as well as trained key DR-TB treatment specialists from all provinces of Uzbekistan.

Key Results

- In the framework of CTB, the WHO Country Office with support of WHO Euro and KNCV CAR experts, conducted the National ND&R workshop for key stakeholders involved in DR-TB program implementation from of the MoH, NTP, National reference laboratory (NRL), sanitary epidemiological service (SES) and international partners (USAID mission, USAID TB control program ("Project Hope"), Project implementation unit of GF, Médecins Sans Frontières) organized in July 2016.

A gap analysis was conducted and main activities were agreed for finalization of the National ND&R implementation plan. It was agreed that a detailed CTB's operational plan of activities in support of ND&R implementation for the next three years (2017-2020) will be prepared within the next month, based on the agreed recommendations. One of the discussed topics was that implementation of new regimens (shorter and individualized) complicates forecasting of anti-TB drug needs. Drug supply forecasting should be improved, to avoid stock-outs and expiration of drugs' shelf life.



Photo: Doctors responsible for treatment of DR-TB cases, perform SWOT analysis of management of DR-TB Tashkent, Sep 2016

- Training on management of drug resistant TB cases, including new treatment approaches, shorter regimen and new TB drugs was conducted by NTP experts (Prof. N.Parpieva, Drs. L.Kalandarova, Sh.Saidova and S.Abulkasimov) for 21 representatives from all regions of Uzbekistan (F=6). Clinicians were provided with the knowledge and skills to effectively manage cases of drug-resistant tuberculosis, especially DR-TB. The course also introduced participants to the XDR-TB case management challenges as well as to approaches to treatment of drug-resistant tuberculosis from a program perspective.

Challenges

In general, according to the local rules in case of adverse event (AE) an AE reporting form (yellow card) should be filled in. However, in TB service yellow cards are not filled in most cases, and information about AEs is not fully collected and systematically reported.

In addition, it is recognized that the development of a case-based real-time electronic registry for TB and MDR-TB patients including the necessary data on treatment outcomes and PV/aDSM is an essential requisite for effective and useful for management of whole national program, PMDT as well as for proper roll-out and monitoring of progress in ND&R implementation.

Monitoring capacity needs to be strengthened to ensure unified approach to TB/DR-TB data management, recording and reporting in CTB pilots.

To address these challenges, CTB supported NTP M&E unit team in drafting the Action Plan for strengthening surveillance/ERR and M&E aspects for roll out of shorter regimen and new drugs in Uzbekistan. CTB will continue activities on ERR improvement in APA3.



*CTB PMU M&E Officer in the process of development of R&R forms
Tashkent TB dispensary, Sep 2016*



*CTB team jointly with NTP M&E team drafting M&E component of national
ND&R implementation, Tashkent, National TB Center, Sep 2016*

Table 2 Sub-objective 9. Drug and commodity management systems

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y2	Result Y
9.1.1	# of stock-outs per [year] of anti-TB drugs, by type (first and second line) and level (ex, national, provincial, district)	<p>Description: The number of stock outs per year of anti-TB drugs, by type (first line drugs (FLD) and second line drugs (SLD)), and level (national, provincial, district)</p> <p>Indicator Value: Number</p> <p>Level: National and Challenge TB geographic areas</p> <p>Numerator: The number of stock outs of anti-TB drugs during past year</p>	Data not available	Data not available	Data not available the baseline and target was not set in Y2. Due to short time for project implementation

9.1.4	Percentage of the product batches tested in the past year that met national and international quality control standards	Description: This indicator measures the percent of the product batches (e.g. FLD, SLD) tested in the past year that meet national and international standards Indicator Value: Percent Level: National Numerator: Number of the product batches tested in the past year that meet national and international standards Denominator: Total number of the product batches tested	Data not available	Data not available	no activities done related to this indicator
9.2.1	# of new and ancillary drug regimens that have become available in country since the start of Challenge TB	Description: The number of new and ancillary drug regimens that have become available in the country through Challenge TB support Indicator Value: Number Level: National Numerator: Number of new and ancillary drug regimens that have become available in the country through Challenge TB support during past year	2 regimen	target was not set due to late CTB launch in Uzbekistan	CTB developed four new and ancillary drug regimens, submitted for NTP review and approval.

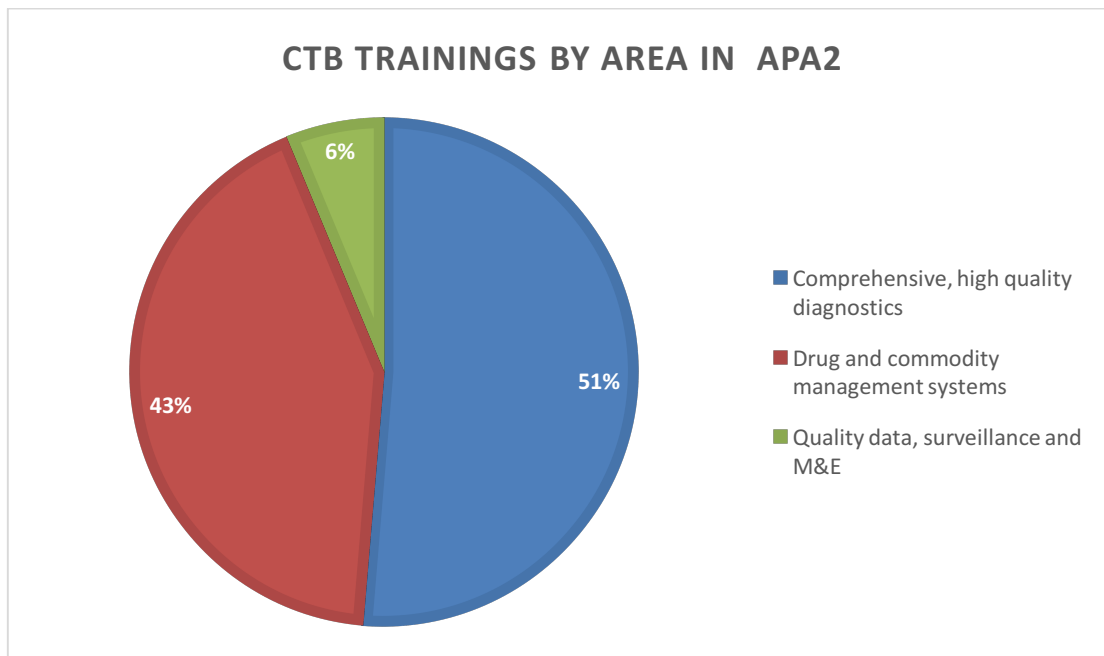
Sub-objective 11. Human resource development

CTB supported NTP to improve its technical capacity in two aspects of TB control - rapid TB diagnosis as well as M&E and programmatic management DR-TB by training of 113 specialists (54 female, 59 male) at the national and central province levels of TB service.

Table 3 Sub-objective 11. Human resource development

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y2	Y
11.1.3	Number of health care workers trained, by gender and technical area	healthcare workers (which includes health facility staff, community health volunteers, laboratory staff, sputum transport technicians, community-based DOTS workers) trained, by gender and sub-objective. Training includes any in-person, virtual, or on-the-job training that is longer than half a day and for which curriculum is available. This indicator is interchangeable with 'Number of individuals trained in any component of the WHO Stop/End TB Strategy with USG funding' which USAID missions may have as a requirement for internal agency reporting. Indicator Value: Number Level: National and Challenge TB geographic areas Numerator: Number of HCWs trained during the reporting period	0	Labs: total 48 Drug and commodity management systems, total 44 10. M&E, Total 4 Grand Total Total 96	Labs: (m) 26, (f) 32, total 58 Drug and commodity management systems (m)29, (f) 19, total 48 10. M&E (m) 4, (f) 3, Total 7 Grand Total (m) 59, (f) 54, Total 113

Figure 2 CTB Trainings by area in APA2



4. Challenge TB Support to Global Fund Implementation

Current Global Fund TB Grants

Table 4 Global Fund TB Grants

Name of grant & principal recipient <i>(i.e., Tuberculosis NFM - MoH)</i>	Average Rating*	Current Rating	Total Approved/Signed Amount**	Total Committed Amount	Total Disbursed to Date
UZB-T-RDC <i>(Republican DOTS Center, MoH)</i>	B1	NA	\$17,948,240	\$10,676,050	\$963,939

* Since January 2011

** Current NFM grant not cumulative amount; this information can be found on GF website or ask in country if possible.

In-country Global Fund status - key updates, current conditions, challenges and bottlenecks

Established in 2001, the Republican DOTS Center (RDC) under the Ministry of Health acts as a principle recipient of the Project Implementing Unit (PIU) of Global Fund to Fight AIDS, TB and Malaria (GFATM) project and is responsible for planning, implementation, monitoring and evaluation of the GF funded TB control interventions in the country. It was appointed as the Principal Recipient for the Global Fund TB for round four, round eight, and grants under the Transitional Funding Mechanism (TFM) and New Funding Model (NFM). MoH coordinates GF's grant implementation to ensure the quality of conducted activities and timely enrolment of MDR-TB patients.

GF is one of the leading supporters of the "National Strategic Plan for 2016-2020" to prevent and control M/XDR-TB in Uzbekistan and is focused on strengthening program management through supervisory visits, sputum smear microscopy, case management of drug-resistant TB cases through culture and DST to 1st and 2nd line drugs for drug resistant TB diagnosis etc. Current, TFM grant is focused on essential services, especially treatment of drug sensitive and drug resistant TB. In line with the NSP, the Global Fund grant is mainly focused on procurement of diagnostics for MDR-TB, second-line drug resistance testing and second-line TB drugs.

After release of the WHO guidelines on implementation of Bedaquiline (BDQ), GF PIU in October 2015 started supporting the BDQ procurement for treatment of XDR-TB patients through the NFM.

The current TGF's grant was insufficient to cover all diagnostic needs and the necessary environment for the introduction of the shorter MDR-TB regimen and new and repurposed drugs-containing regimens for pre-XDR and XDR cases in line with the WHO recommendations, but procurement and delivery of Bdq has been channeled through PIU GFATM.

To improve TB case detection and diagnosis, GFATM PIU procured and installed Hain LPA SL tests in five interregional labs, for testing drug resistance for FLD. CTB in APA3-APA5 will support GF PIU and NTP in improvement of functionality of these lab instruments, for ensuring the universal assess for DR-TB detection and treatment.

Audit of the Global Fund Grants to Uzbekistan conducted in 2015 found that TB program is following the national protocols for diagnostics and treatment. Separate protocols exist between the Republican DOTS Center and the National TB Institute. Republican DOTS Center standards correlate with the international standards closer than those of the National TB Institute. Audit of the Global Fund Grants recommended areas for change include: delay of enrolling TB and MDR-TB patients in treatment due to lengthy diagnostics or patients "not ready", intensive in-patient treatment of 85% of TB cases (plan

to reduce to 70%), support mechanisms to retain TB and MDR-TB patient adherence to treatment and regimens are limited to occasional psycho-social support, periodic non-DOTS prophylaxis of successfully treated patients that may lead to re-infection or drug resistance, suboptimal TB infection control measures (no fit-test kits to test respirators, UV-C meter needed to test UVGI lamps), insufficient capacity of laboratory network, TB program is not yet sufficiently involved in cross-border coordination with neighboring countries on TB control and care

The issues related to the high MDR-TB prevalence have been raised also during the TB concept note review by the Global Fund Technical Review Panel and are followed up by the PIU GFATM. These have translated into the main objectives of the upcoming TB grant to Uzbekistan as well as of the new regional grant for the Eastern Europe and Central Asia region on strengthening health systems for effective TB and drug-resistant TB control.

Another issue is that NTP uses manual tools for health product quantification and distribution, which are not ideal for sufficient monitoring of drug stock levels across the country. This has contributed to periodic drug stock-outs in regional and local health facilities and treatment disruptions, according to GF audit report (Jan 2016). The unavailability of automated drug supply systems together with the absence of buffer stocks are some of the key underlying causes that need to be addressed to minimize treatment disruptions.

Global Fund provides extensive support to country in procurement of diagnostic tools, first- and second-line drugs, monitoring and evaluation. But it is important to highlight that government should gradually start picking up part of drugs costs. A first step in this direction was MoH's approval of the National Action Plan to fight TB /MDR-TB for 2012-2015, where financial institutions of the government have been requested to develop plan on gradually increasing financing of the M/XDR-TB program.

CTB involvement in GF support/implementation and any actions taken during Year 2

Despite the strong financial input into the TB control program, technical capacity for Global Fund grant implementation in the country is rather limited, specifically it is focused on reaching quantitative/ financial indicators while qualitative aspects of their interventions receive less priority and attention. Global Fund funds are reprogrammed only for TB drugs procurement.

In APA2 CTB worked closely with GF to ensure the coordination and collaboration on the country strategy and implementation plan. CTB started development of ND&R implementation plan. This plan will help NTP to implement TFM grant more cost effectively, because cost of shorter TB treatment to be endorsed by NTP with CTB's support in APA3-APA5 is cheaper, and it allows to treat up to 30-40% more patients than if standard treatment regimen would be used.

Also, GF PIU was an important part of discussion on new DR-TB treatment regimen, organized by CTB experts from WHO and KNCV jointly with MSF and GLC colleagues. Additionally, CTB and GF PIU in APA2 exchanged information about ongoing activities during regular partners' meetings hosted by WHO Country Office in Uzbekistan.

5. Challenge TB Success Story

Due to limited period of CTB implementation in APA2 (June-October), the success stories will be presented in coming project year.

6. Operations Research

Table 5 Operations Research

Title of OR study	Local partners involved in study	Implementation Status	Key findings	Dissemination
ORs were not conducted due to short period of implementation.		CTB will consider conduction of OR in APA3-APA4		

7. Key Challenges during Implementation and Actions to Overcome Them

Challenge	Actions to overcome challenges
Technical	
Low access to rapid DR- TB diagnosis in regions of Uzbekistan. In light of expected significant ND&R program scale-up, low diagnostic lab capacity in detection of DR-TB is a major bottleneck in expansion of new drugs and shortened regimen nationwide.	CTB will support NTP in strengthening diagnostics capacity and improving access to bacteriological laboratory tests allowing rapid identification of R/HR resistance and resistance to second line injectables (SLIs) and fluoroquinolones (FQs); CTB will help to optimize the diagnostic algorithm allowing patient' triage for SR and individualized regimens and its introduction at PHC and TB services. In addition, CTB initiates procurement of 5 Xpert MTB/Rif machines and one Hain LPA SL to address the gap
NTP's managerial capacity in planning, budgeting, monitoring and maintenance of national lab network needs to be strengthened.	CTB will support development and endorsement of TB-specific national laboratory strategic plan.
aDSM should be implemented. In general, according to the local rules in case of adverse event (AE) an AE reporting form (yellow card) should be filled in. However, in TB service yellow cards are not filled in most cases, and information about AEs is not fully collected and systematically reported.	CTB will help NTP to develop and pilot a PV/aDSM system for implementation of new drugs and shorter treatment regimen.
Insufficient use of surveillance data for monitoring of TB program performance. It is recognized that the development of a case-based real-time electronic registry for TB and MDR-TB patients including the necessary data on treatment outcomes and PV/aDSM is an essential requisite for effective and useful for management of whole national program, PMDT as well as for proper roll-out and monitoring of progress in ND&R implementation.	CTB will support NTP to define and address M&E issues for data management for proper roll out of shorter regimen and new drugs, as well as will draft Action Plan on revision of e-surveillance/ e-RR and M&E system in light of roll out of these new TB treatment regimens in Uzbekistan; As an interim solution, CTB will adapt the interim database for recording and reporting of relevant data on PV/aDSM and treatment effectiveness, which will be used as a basis for a constant case based real-time electronic registry for TB and MDR-TB patients in the future.
Administrative	
KNCV applied to Ministry of Justice of Uzbekistan for its branch office registration, but due to unknown reasons this application was not succeeded. Due to this reason, implementation of CTB activities in Uzbekistan was started in June 2016	WHO country office joined to CTB implementing partnership in June 2016.

8. Lessons Learnt/ Next Steps

It is recognized that the development of a case-based real-time electronic registry for TB and MDR-TB patients including the necessary data on treatment outcomes and PV/aDSM is a lengthy process, with many stakeholders to be involved in the development work at various stages. Thus, the use of “bridging” database developed by CTB/KNCV is proposed as an interim solution to ensure recording and reporting of relevant data, including data on AEs and treatment effectiveness.

CTB consultants will organize follow up discussions among NTP, WHO and MSF colleagues to agree on individualized regimen design. During the next GLC mission (in November/December 2016) the regimen design will be finalized.

As of project strategy for coming three years, the main goal of the CTB project in Uzbekistan will be the improving patient-centered quality TB care through utilization of innovations in diagnosis and treatment of the most difficult to treat forms of TB.

Thus, in 2016-2020 the CTB project in Uzbekistan will provide TA to the National TB program in programmatic implementation of shorter regimen (SR) and individualized regimens containing repurposed and new drugs (NDs) for treatment of drug resistant (DR) TB for adults and children.

- Programmatic implementation of SR & NDs will include following key directions:
 - strengthening diagnostics capacity and improving access to bacteriological laboratory tests allowing rapid identification of R/HR resistance and resistance to SLID and FQs;
 - optimization of diagnostic algorithm allowing patient’ triage for SR and individualized regimens and its introduction at PHC and TB services;
 - strengthening capacity of clinicians at TB and PHC services in clinical management of TB cases enrolled on SR & NDs;
 - integration of active drug safety monitoring and management (aDSM) in programmatic and clinical management of DR-TB;
 - adjustment of program’ monitoring and evaluation system in light of SR & NDs implementation for treatment of DR-TB;
- CTB will support step wise introduction of SR&NDs in Uzbekistan. CTB will support improvement of TB regulations at the National level, and pilot SR&NDs starting from Tashkent city (upon agreement with the NTP director) with gradual expansion to three additional provinces: Samarkand, Surkhandarya and Fergana. As soon as Tashkent city will be ready to start patient enrolment, the CTB project will continue preparation of new sites for implementation of SR&NDs. Thus, over three years the CTB project will support up to 4 provinces in Uzbekistan.
- CTB will work in close collaboration and coordination with the NTP/MoH, PIU GFATM, Republican DOTS Center, Project HOPE, MSF, Gauting SNRL and KFW in order to ensure optimal use of all resources available in the country

Annex I: Year 2 Results on Mandatory Indicators as well as National Data on the Number of pre-/XDR-TB Cases Started on BDQ or Delamanid

Table 6 Mandatory indicators & National data

MANDATORY Indicators				
2.1.2 A current national TB laboratory operational plan exists and is used to prioritize, plan and implement interventions.	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Score as of September 30, 2016	0	N/A	None	TB laboratory operational plan within the larger National TB Laboratory Strategic Plan will be developed in APA3.
2.2.6 Number and percent of TB reference laboratories (national and intermediate) within the country implementing a TB-specific quality improvement program i.e. Laboratory Quality Management System	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Number and percent as of September 30, 2016	2/2 (100%)	N/A	None	NRL (Tashkent) - Phase 3 NRL (Nukus)- Phase 4
2.2.7 Number of GLI-approved TB microscopy network standards met	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Number of standards met as of September 30, 2016	N/A	N/A	None	AFB microscopy network is not yet fully quality-assured according to international standards. NRL has just started preparations for making regular assessments using GLI-approved standards, that is why this data is not available.
2.3.1 Percent of bacteriologically confirmed TB cases who are tested for drug resistance with a recorded result.	National 2015	CTB 2015	CTB APA 2 investment	Additional Information/Comments

Percent (new cases) , include numerator/denominator	28,2% (4138/14668)	N/A	Limited	CTB conducted trainings on rapid TB lab diagnosis for lab staff, TB doctors and key healthcare managers, but Xpert MTB/Rif machines will be procured only in APA3.
Percent (previously treated cases) , include numerator/denominator	78,0% (3420/4387)	N/A		
Percent (total cases) , include numerator/denominator	46% (7558/16315)	N/A		
3.1.1. Number and percent of cases notified by setting (i.e. private sector, pharmacies, prisons, etc.) and/or population (i.e. gender, children, miners, urban slums, etc.) and/or case finding approach	National APA2	CTB APA2	CTB APA 2 investment	Additional Information/Comments
Number and percent	<i>Fill in data in "Ind 3.1.1 - APA 2" worksheet</i>	<i>Fill in data in "Ind 3.1.1 - APA 2" worksheet</i>		This indicator is routinely reported by the NTP and disaggregated by civil and penal population and gender. Private sector, pharmacies are not officially involved in TB case detection and this indicator is not disaggregated by settings.
3.1.4. Number of RR-TB or MDR-TB cases notified	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Total 2015	2 149	NA	Limited	CTB in APA2 conducted two trainings for TB doctors and key healthcare managers, in rapid TB diagnosis, but procurement of Xpert/MTB/Rif machines for pilots will be done in APA3.
Jan-Mar 2016	NA	NA		
Apr-June 2016	NA	NA		
Jul-Sept 2016	NA	NA		
To date in 2016	0	0		
3.2.1. Number and percent of TB cases successfully treated (all forms) by setting (i.e. private sector, pharmacies, prisons, etc.) and/or by population (i.e. gender, children, miners, urban slums, etc.).	National 2014 cohort	CTB 2014 cohort	CTB APA 2 investment	Additional Information/Comments
Number and percent of TB cases successfully treated in a calendar year cohort	Getting from WHO	NA	Limited	Due to late project launch, CTB had a limited time to impact to this indicator.
3.2.4. Number of patients started on MDR-TB treatment	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Total 2015	2 149	NA	Limited	Due to late project launch, CTB had a limited time to impact to this indicator. CTB only supported
Jan-Mar 2016	NA	NA		
Apr-June 2016	NA	NA		

Jul-Sept 2016	NA	NA		development of a ND&R implementation plan.
To date in 2016	0	0		
3.2.7. Number and percent of MDR-TB cases successfully treated	National 2013 cohort	CTB 2013 cohort	CTB APA 2 investment	Additional Information/Comments
Number and percent of MDR-TB cases successfully treated in a calendar year cohort	Getting from WHO	NA	Limited	Please refer to information for 3.2.4
5.2.3. Number and % of health care workers diagnosed with TB during reporting period	National 2015	CTB 2015	CTB APA 2 investment	Additional Information/Comments
Number and percent reported annually	0,05% (85 out of 17,464)	NA	None	CTB in APA2 was not working in TA areas which could impact to this indicator.
6.1.11. Number of children under the age of 5 years who initiate IPT	National 2015	CTB 2015	CTB APA 2 investment	Additional Information/Comments
Number reported annually	1 842	NA	None	
7.2.3. % of activity budget covered by private sector cost share, by specific activity	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Percent as of September 30, 2016 (include numerator/denominator)	N/A	NA	None	Private providers are not involved in TB control in Uzbekistan.
8.1.3. Status of National Stop TB Partnerships	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Score as of September 30, 2016	0	NA	None	Partners collaborate through WHO organized regular Partners meeting (1 per 2 months) CTB didn't invest in this area due to limited financial and human resources.
8.1.4. % of local partners' operating budget covered by diverse non-USG funding sources	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Percent as of September 30, 2016 (include numerator/denominator)	N/A	NA	None	In Uzbekistan there are no local organizations received funds from CTB.
8.2.1. Global Fund grant rating	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Score as of September 30, 2016	B1	N/A	Limited	CTB in APA2 collaborated with GF/Rep DOTS center during development of implementation plan for new drugs and regimen.

9.1.1. Number of stock outs of anti-TB drugs, by type (first and second line) and level (ex, national, provincial, district)	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Number as of September 30, 2016	Data not available	Data not available	None	CTB's was not presented in this area in APA2
10.1.4. Status of electronic recording and reporting system	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Score as of September 30, 2016	2	N/A	Moderate	Country uses old-fashioned TBESCM electronic system for collection and analysis of epidemiological data. Drugs' needs calculated on the basis of Quant TB system. Paper based recording (registers, medical cards) and reporting (treatment effectiveness, number of registered cases) system is in place.
10.2.1. Standards and benchmarks to certify surveillance systems and vital registration for direct measurement of TB burden have been implemented	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Yes or No as of September 30, 2016	No	N/A	None	Standards and benchmarks are not implemented in Uzbekistan. CTB was not working in this area in APA2
10.2.6. % of operations research project funding provided to local partner (provide % for each OR project)	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Percent as of September 30, 2016 (include numerator/denominator)	N/A	0	None	ORs in APA2 were not conducted due to limited time for project implementation.
10.2.7. Operational research findings are used to change policy or practices (ex, change guidelines or implementation approach)	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Yes or No as of September 30, 2016	N/A	No	None	ORs in APA2 were not conducted due to limited time for project implementation.
	CTB APA 2		CTB APA 2 investment	Additional Information/Comments

11.1.3. Number of health care workers trained, by gender and technical area				
	# trained males APA 2	# trained females APA 2	Total # trained in APA 2	Total # planned trainees in APA 2
1. Enabling environment			0	
2. Comprehensive, high quality diagnostics	26	32	58	48
3. Patient-centered care and treatment			0	
4. Targeted screening for active TB			0	
5. Infection control			0	
6. Management of latent TB infection			0	
7. Political commitment and leadership			0	
8. Comprehensive partnerships and informed community involvement			0	
9. Drug and commodity management systems	29	19	48	44
10. Quality data, surveillance and M&E	4	3	7	4
11. Human resource development			0	
Other (explain)			0	
Other (explain)			0	
Grand Total	59	54	113	96
11.1.5. % of USAID TB funding directed to local partners	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments
Percent as of September 30, 2016 (include numerator/denominator)	N/A	0	None	No local partners were directly funded

Year/Quarter	Number of pre- /XDR-TB cases started on BDQ nationwide	Number of pre- /XDR-TB cases started on DLM nationwide	CTB APA 2 investment	Additional Information/Comments
Total 2014	0	0	Moderate	CTB started project activities in July 2016 with development of ND&R implementation plan. CTB team will follow up of finalization and NTP's approval of the plan and support NTP in strengthen treatment regimens by ordering Bdq for additional 120 patients in 2017
Total 2015	30	0		
Jan-Mar 2016	30	0		
Apr-Jun 2016	0	0		
Jul-Aug 2016	0	0		
To date in 2016	30	0		

Number and percent of cases notified by setting (i.e. private sector, prisons, etc.) and/or population (i.e. gender, children, miners, urban slums, etc.) and/or case finding approach (CI/ACF/ICF) (3.1.1)							
		Reporting period					CTB APA 2 investment
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Jul-Sept 2016	Cumulative Year 2	
Overall CTB geographic areas	TB cases (all forms) notified per CTB geographic area (<i>List each CTB area below - i.e. Province name</i>)	Remark: Data per quarter per province is not available (NTP provide data only on an annual basis for WHO reporting)					Limited. Due to late Project launch, CTB had a limited impact to these indicators. Quarterly data is not available for international partners (NTP provides data only on an annual basis for WHO reporting)
	National	N/A	N/A	N/A	N/A	N/A	
	Djizzak	N/A	N/A	N/A	N/A	N/A	
	Syrdarya	N/A	N/A	N/A	N/A	N/A	
	TB cases (all forms) notified for all CTB areas						
	All TB cases (all forms) notified nationwide (denominator)						
	% of national cases notified in CTB geographic areas						

Annex II: Status of EMMP activities

Table 7 EMMP activities

Year 2 Mitigation Measures	Status of Mitigation Measures	Outstanding issues to address in Year 3	Additional Remarks
Mitigation Measures for EMM for:			
1. Education, technical assistance, training, etc.	No environmental impacts were done as a result of these activities.	n/a	n/a
2. Public health commodities	There were no activities in the workplan related to this category	n/a	n/a
3. Medical waste	There were no activities in the workplan related to this category	n/a	n/a
4. Small-scale construction	There were no activities in the workplan related to this category	n/a	n/a
5. Small-scale water and sanitation	There were no activities in the workplan related to this category	n/a	n/a